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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,907	08/28/2006	Atsushi Tanno	4386.75743	5612
24978 7590 01/28/2009 GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606				
EXAMINER				
FISCHER, JUSTIN R				
ART UNIT		PAPER NUMBER		
1791				
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01/28/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/590,907

**Applicant(s)**

TANNO ET AL.

**Examiner**

Justin R. Fischer

**Art Unit**

1791

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6, 7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6, 7, and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsihas (WO 02/085648, of record) and further in view of Yukawa (US 2003/0188817).

As best depicted in Figures 1-3, Tsihas is directed to a pneumatic tire construction comprising an annular object 40 (noise attenuating device) mounted on an inner surface of a tire tread portion. The reference further describes said object as having a varied cross-sectional area over the circumferential extent of the tire- such a construction results from the inclusion of rectangular ridges and rectangular gaps. The reference additionally teaches the use of sound absorbing materials, such as foamed rubber or plastic, to form said device (Paragraph 38). While the reference fails to expressly disclose the density of such materials, the claimed values are consistent with commonly used sound absorbing/porous materials used in the tire industry, as shown for example by Yukawa (Paragraph 26). In this instance, Yukawa teaches the preferred use of a sound absorbing material having a density between 16 and 35 kg/m<sup>3</sup>, which falls completely within the broad range of the claimed invention. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention

would have found it obvious to use a porous material having the claimed density in the structure of Tsihlas. It is further noted that the language "partially applying compression forming to a porous material member" is directed to the method of forming the object and does not further define the structure of the claimed article.

With respect to the variation in weight per unit length, Tsihlas suggests the following design (Column 3, Lines 55+):

- multiples of four ridges and gaps will be suitable and
- preferably, a height of the gaps 46 occupies at least half the height of the ridges 42.

Based on this description, one of ordinary skill in the art at the time of the invention would have found it obvious to form a design in which said ridges and gaps have the same circumferential length. Furthermore, as noted above, a height (for the gaps) of at least half the height of the ridges is a preferred construction- one of ordinary skill in the art at the time of the invention would have readily appreciated an embodiment in which a height of the gaps occupies a small amount of the height of the ridges. In such an instance, said ridges and gaps would have the same length and a slightly different weight- absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have readily appreciated a specific embodiment in which the different in weight per length is 2%.

Regarding claims 2-4, the claims are directed to the method in which the object is formed and such limitations do not further define the structure of the claimed tire.

Regarding claim 6, the claims are directed to a tire construction- any limitations relating to the cross sectional area of a tire cavity are concerned with the intended use of said tire (pertains to wheel assembly comprising tire and rim). Additionally, Tsihla is directed to a wide variety of tire constructions and the claimed relationship would be a function of the specific tire, and thus the tire size. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed relationship. It is emphasized that Tsihla suggests a wide variety of designs in which the number of gaps and ridges and the height of said gaps and ridges varies.

With respect to claim 7, one of ordinary skill in the art at the time of the invention would have readily appreciated a wide variety of arrangements in which the maximum thickness is at least 10 mm. In such an instance, the minimum thickness would have been expected to be at least 1 mm. It is emphasized that the thickness is not a critical feature in the construction of Tsihla (and such is a function of the specific tire being manufactured) and applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed dimensions.

Regarding claim 9, the respective portions are rectangular.

As to claim 10, the figures of Yukawa suggest the use of a wide variety of arrangements and one of ordinary skill in the art at the time of the invention would have readily appreciated the use of several known arrangements or geometries, including a parallelogram. It is emphasized that the use of a variety of arrangements or geometries remains consistent with the desire to disturb standing waves and effectively attenuate tire cavity noise (Paragraph 23).

With respect to claim 11, Yukawa evidences the known use of polyurethane foams (Paragraph 27).

***Response to Arguments***

3. Applicant's arguments filed October 27, 20008 have been fully considered but they are not persuasive.

Applicant argues that Tsihlas (a) teaches that the strips 42,43 can be formed by molding or machining and (b) fails to disclose or suggest that the weight distribution of the strips is uniform in the circumferential direction.

In regards to (a), the claims are directed to an article of manufacture and thus, any limitations related to the method of forming said article do not further define the claimed article (no evidence that a materially different product is formed). In this instance, the claimed variation in weight per unit length is not limited to a method in which a uniform annular object is intermittently compressed- additional methods, such as those described by Tsihlas, have the capability of forming the claimed design.

With respect to (b), the claims require the presence of compressed and uncompressed portions, wherein said portions have a variation in weight per unit length between 0 and 2 percent. As set forth above, whether through molding, machining, or additional method, annular object 40 can be formed with gaps and ridges having the same circumferential length and slightly different heights (and thus slightly different weights), such that the variation is within the claimed range. It is emphasized that the constructions depicted in the figures are exemplary and one of ordinary skill in the art at the time of the invention would have readily appreciated a wide variety of constructions,

including those required by the claimed invention. Thus, contrary to applicant's argument, it does not appear that some of the constructions within the scope of Tsihlas have structural differences in relation to the claimed structure.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin R. Fischer whose telephone number is (571) 272-1215. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer  
/Justin R Fischer/  
Primary Examiner, Art Unit 1791  
January 26, 2009